AMENDMENTS TO THE CLAIMS

1. (Cancelled)

2. (Previously Presented) The image pick-up apparatus according to claim 4, wherein the fourth filter transmits light having a wavelength of 640 nm or more.

3. (Previously Presented) The image pick-up apparatus according to claim 4, wherein the predetermined region is an invalid pixel region of the solid-state image pick-up device.

4. (Currently Amended) An image pick-up apparatus comprising:

an optical lens system;

a solid-state image pick-up device that converts a light signal incident through the optical lens system into an electric signal, the solid-state image pick-up device comprising

first pixels that are used to pick up a color image,

a second pixel disposed in a predetermined region of the solid-state image pick-up device, the second pixel being used for distinguishing a light source type,

first to third filters mounted on the first pixels, and

a fourth filter with peak sensitivities at two or more different wavelengths, wherein one of said different wavelengths is ~~for transmitting a light having at least~~ a wavelength in the vicinity of 520 nm or a wavelength in the vicinity of 580 nm, the fourth filter being mounted on the second pixel; and

a control unit that distinguishes a light source type based on (i) a signal charge output from a first pixel mounted with the first filter and (ii) a signal charge output from the second pixel, wherein the control unit automatically adjusts a white balance of a color pick-up image of the solid-state image pick-up device.

5. (Currently Amended) A digital camera comprising:

a color image pick-up unit that picks up a color image of an object;

a signal processing unit that separates a color signal output from the color image pick-up unit into a luminance signal and a color difference signal, the signal processing unit multiplying the color difference signal by a color difference matrix, to carry out a color correction;

a color difference matrix switching unit that stores a color difference matrix for sunlight and a color difference matrix for a specific light source other than the sunlight, the color difference matrix switching unit switching the color difference matrix depending on whether a light source in photographing is the sunlight or the specific light source, to carry out the color correction; and

a light source type distinction sensor that distinguishes whether a light source in photographing is the sunlight or the specific light source based on a signal charge output from a pixel mounted with a filter, the filter having peak sensitivities at two or more different wavelengths, wherein one of said different wavelengths is ~~transmitting a light having at least~~ a wavelength in the vicinity of 520 nm or a wavelength in the vicinity of 580 nm.

6. (Original) The digital camera according to claim 5, wherein the specific light source is an F6 light source.

7. (Original) The digital camera according to claim 5, wherein the specific light source is an F12 light source.

8. (Previously Presented) The digital camera according to claim 5, wherein:

the specific light source includes an F6 light source and an F12 light source,

the color difference matrix switching unit stores color difference matrices for the F6 light source and the F12 light source as color difference matrices for specific light sources, and

the color difference matrix switching unit switches the color difference matrix depending on whether the specific light source is the F6 light source, the F12 light source, or the sunlight, to carry out the color correction.

9. (Previously Presented) The digital camera according to any of claims 5 to 8, wherein:

the color difference matrix switching unit automatically switches the color difference matrix based on a result of detection of the light source type distinction sensor.

10. (Previously Presented) The digital camera according to claim 9, wherein the light source type distinction sensor is incorporated integrally with the color image pick-up unit.

11. (Previously Presented) The image pick-up apparatus according to claim 4, wherein:

an optical spectral characteristic of the first filter corresponds to green,

an optical spectral characteristic of the second filter corresponds to red, and

an optical spectral characteristic of the third filter corresponds to blue.

12. (Previously Presented) The image pick-up apparatus according to claim 4, wherein the first pixels are disposed in a valid region of the solid-state image pick-up device.

13. (Previously Presented) The image pick-up apparatus according to claim 4, wherein the first to fourth filters are different from each other in optical spectral characteristics.

14. (Previously Presented) The image pick-up apparatus according to claim 4, wherein the control unit distinguishes the light source type based on a value obtained by dividing an output value corresponding to the signal charge output from the second pixel by at least an output value corresponding to the signal charge output from the first pixel mounted with the first filter.

15. (Previously Presented) The image pick-up apparatus according to claim 14, wherein the control unit distinguishes the light source type based on the value obtained by the following formula:

wherein

X_1 denotes an output value corresponding to the signal charge output from a first pixel mounted with the first filter,

X_2 denotes an output value corresponding to the signal charge output from the first pixel mounted with the second filter,

X_3 denotes an output value corresponding to the signal charge output from the first pixel mounted with the third filter,

X_4 denotes the output value corresponding to the signal charge output from the second pixel, and

k1 to k3 are coefficients.

16. (Previously Presented) The image pick-up apparatus according to claim 4, wherein the control unit adjusts a white balance of the color pick-up image of the solid-state image pick-up device based on the distinguished light source type.